DELAYED SYMPTOMS AFTER INJURY TO THE HEAD.

S. G. Webber M.D. Boston
S. G. Webber.

The length of time which may elapse after an accident before cerebral symptoms set in, is a point in prognosis worthy of notice. Generally, if the injury is severe, a series of phenomena commences immediately, and there can be no doubt as to the connection between the accident and the symptoms. Occasionally an interval of time intervenes, and it may not be so easy to decide whether the symptoms coming on several days or weeks after the reception of an injury are due to it or have arisen independently.

Generally, perhaps always, if the truth could be known, it would be found that the period of incubation, if it might be so called, is not entirely devoid of symptoms; a slight headache, vertigo on stooping, or perhaps a scarcely perceptible change in behavior or character, might be found if inquired after. These symptoms are, however, so unimportant in the opinion of the patient as not to be noticed, and unless direct questions are asked on these points they will not be known. With children, it may be impossible to learn whether such symptoms exist, and it is therefore important to be the more guarded in expressing an opinion as to the termination of the case.

The following cases illustrate the points to which reference has been made:

Case I.—I was called, in January, 1870, to see a boy, about 5 years old, who had a fit. In November, of the previous year, he fell quite a distance from a sky-light to one of the landings, nearly twenty feet.

He was supposed to have struck his right thigh, and possibly his head. The thigh was bruised and tender, and he walked lame, and complained of his hip. He was nauseated for a few days after, and perhaps complained a little of his head, but not much. He played about as usual, and it could only be noticed that he was more excited and nervous than previous to the fall, and also was easily frightened. Otherwise, there were no symptoms following the injury, except that referable to the hip. A short time before I saw him, he was standing at the window, and suddenly, without warning, screamed loudly, lost consciousness, vomited, became stiff and slightly convulsed. When seen, he was lying on his back on a sofa, seeming to notice nothing, a slight amount of froth at the mouth, the muscles rather stiff, but there were no convulsions. He tried to vomit once. Ether was given by inhalation, and after a few whiffs he made motion to get away, crawling over to the other side of the bed, on which he had been placed. He would not talk nor recognize anyone. Enough ether was given to produce partial insensibility, and he was left to sleep. It was then learned that the previous evening he had eaten some canned peaches, which had fermented. The diagnosis under such circumstances was rather

doubtful, but naturally the error in diet was considered as probably the cause of the fit. The prognosis necessarily depended upon the diagnosis. There was, however, a possibility of a connection between the fall and the fit, and therefore the chances in favor of recovery were not so favorable as they otherwise would have been.

The boy slept for a while, and then awoke apparently well. The father told me afterwards that the next time he urinated he suffered severely, crying out with the pain, but not losing consciousness. He was subsequently under the care of Dr. Bundy, who had previously attended the family, and from him I learned that cerebral symptoms appeared, and the child died, having apparently cerebral meningitis.

I was asked to examine the body after death. The head was the only part examined. The only disease found was inflammation of the meninges. There was a deposit of lymph covering the pia mater, limited to the right side, chiefly about the fissure of Sylvius and the fissure of Rolando, not extending beyond the median line, nor into the longitudinal fissure. The lymph was chiefly deposited on the convex surface, and but very little at the base; the extreme anterior and posterior portions of the hemisphere were free. The vessels of the pia mater were a little fuller than usual. The cerebral substance was not materially changed, not softened, and there were no signs of contusion nor hæmorrhage into its substance.

In view of the limitation of the inflammation to that part of the right side of the head which was struck, it is reasonable to suppose that this lesion was caused by the fall, although there was an interval of two months between that event and the appearance of the first marked symptom.

Case II.—Henry B——, seaman on the United States Steamer Rhode Island, æt. 28, during March, 1863, while in the West Indies, received a blow on his head from a marline-spike, which fell from the fore-top. His head was bruised, and he had some headache at the time. April 1st, 1863, he found it difficult to speak; his tongue was inclined to the right side when protruded; he complained of headache. His hair was cut off, a blister applied, and counter-irritation was kept up. He improved so much as to be able to go to duty on April 13th.

April 21st, he appeared again, complaining of headache, and spoke with difficulty. Counter-irritation was renewed. There was no sensible improvement, and May 3d, he was sent North to hospital.

These are the only notes preserved of this case. As I remember the case, there was little or no inconvenience during several days between the reception of the blow and April first, when he applied for medical advice; the headache, which immediately followed the blow, not continuing long of sufficient intensity to make him refrain from duty. Probably, between April 13th and 21st, there were some remains of abnormal symptoms, which his pride, as a seaman, led him to disregard.

The following case is from a little work by Bryant:

Case III.—"Arthur B——, æt. 3, was admitted into Guy's Hospital in July, 1860, under the care of Mr. Birkett, but the treatment of the case fell into my hands. Shortly before admission, the child had fallen from a window, eight or ten feet high, pitching upon his head. He was taken up hastily, and brought to Guy's, when he became conscious, presented no external signs of injury, and no symptom of cerebral mischief could be detected. He was placed in a bed, and ordered to be kept quiet, as a precautionary measure, and everything went on well till the third

day, when fever appeared, accompanied with vomiting, unconsciousness, and the peculiar scream so characteristic of cerebral irritation. The head was tilted back upon the spine, and the pupils were dilated." Under treatment he recovered.*

The following case, translated from the German, illustrates, even better than the preceding, the very serious results which may follow an injury, though at the time there is nothing in particular to attract the attention.

Case IV.—G. B. von R——, 29 years old, was received into the institution in February, 1858. There was unmistakable hereditary tendency to psychical disease. He had enjoyed good health, and was well developed. He had indulged in sexual excesses and masturbation. He had been married five years, was temperate in eating and drinking. In May, 1857, slight cerebral disturbance was caused by a blow from a carriage over the left parietal bone. In July, of the same year, he became irritable, passionate, violent, capricious, at the same time indifferent to surroundings, negligent in business. A week later, there was rapid loss of memory, especially for recent events; increasing thoughtlessness and wandering were seen in talking and writing. Finally, he could no longer form a single sentence, or add a simple column of figures, and he complained of his increasing mental weakness. There appeared, in October, a maniacal excitement in the form of purposeless, senseless activity, seeking after new projects, and a desire for travelling. At the same time, appeared motor disturbance (staggering gait, trembling, great muscular weakness), delirium with exaggerated ideas, which soon took enormous dimensions, and a considerable increase of sexual desire. * * * * * * During the spring of 1858, he improved considerably, and went home, having, however, still slight mental weakness, and slight motor disturbance. The improvement continued until the end of 1860. Increasing weakness of memory, absent-mindedness, and imbecility, brought him back in February, 1861. In May, of the same year, he left, improved; he lived apathetic, imbecile and paralyzed till the spring of 1863, having many apoplectic attacks, meanwhile, in one of which in May he died.

The autopsy revealed the following interesting appearance:—

The skull was difficult to saw; diploë unusually dense, almost free of blood. On the left parietal eminence was a nearly circular spot, about 1½ centimetres in diameter, over which the periosteum was very firmly adherent. Opposite this, the parietal bone was bent in, seemingly uniformly, like a sort of flat funnel. It was formed of compact, pale masses of bone, and was covered with many fine-pointed spicula of bone. The whole strikingly resembled an opening made by a trephine, which had been closed up by callus.

At the above mentioned spot, the inner side of the calvaria was adherent to the dura mater by a firm membrane, which could be torn from the dura mater. From this place, extending towards the median line, the membrane was opaque, thickened, and very resistent. About half a pint of reddish serum escaped when the dura mater was cut. In the longitudinal sinus were coagula. In the opaque and thickened spot of the dura mater, just opposite the left parietal eminence, and near the falciform sinus, stuck fast two irregular sequestra of the inner table. The points of these penetrated the membrane inwards. At this spot, especially in the course of the great veins, the arachnoid and pia mater were very dull, and covered with numerous pacchionian granulations. The vessels of the pia were swollen with blood; the pia was easily separated from the con-

* The Surgical Diseases of Children. Thomas Bryant. London, 1863, p. 59.

volutions; only along the longitudinal sinus on both sides was the gray substance adherent. The remainder of the brain showed no change from the normal condition, according to the report of the autopsy.*

In the same monograph are several cases of a similar character. In one, a stable-servant, jumping from a wagon, struck his head against the wheel. For ten days, no symptoms were present, except some headache, and he kept at work. After ten days, he became restless and sleepless, and subsequently had mental disturbance and paralysis, and died in about one year.

Since commencing this article, I have seen a report of a case by Dr. Gibson, in the Edinburgh Medical Journal, September, 1870, which is of interest. A man, about sixty years old, was found in a state of coma, and in two days he died. There was no mark of contusion or violence on the body, but the left parietal bone was extensively fractured, without depression, and the left hemisphere was covered with a thick layer of firmly coagulated blood, which proceeded from the middle meningeal artery and the contiguous portion of the dura mater. It was learned subsequently that three days before that on which he was found, he had fallen down a long flight of stone steps, and was severely stunned. He soon recovered, and went about as usual, though somewhat confused, and complaining of his head now and then.

These cases are all of such a nature that there can be no doubt that the injury played an important part as cause of the lesion which followed. Occasionally, others occur, which give rise to a doubt as to how far the injury has acted as a cause. These are always of a more chronic character, and the cerebral disturbance often shows itself in one of the forms of insanity. If several years have passed in comparative health after the accident, it may be difficult at first to establish the connection between the two. Cases of epilepsy are sometimes of this nature. It is particularly important, under such circumstances, to inquire minutely into the history of the patient, to learn his intellectual power, and his disposition and character previous to the injury; to discover whether there has been any change, whether he has become, during the interval of apparent health, irritable, morose, unkind, or whether the opposite is true, and he has become more gentle and quiet; whether there has been any loss of mental power, or a condition of restless activity and sleeplessness; whether there has been an increased tendency to congestion of the head; in short, the most trivial and seemingly unimportant particulars are to be investigated. If any change has been noticed, the date of its commencement must be fixed; not the date at which it became so marked as no longer to be concealed, but the time when the earliest and scarcely perceptible change occurred. It may be found that this change was coincident with the receipt of the injury, and the diagnosis is then easier.

With all the care possible there will be cases where a doubt arises as to the extent to which the previous injury has served as cause of the subsequent condition. It is often such cases which come into court for adjustment of damages, wherein doctors, lawyers, judges and juries, have scope for the exhibition of skill, rhetoric and patience. In such cases, frequently, the chief question is, as to how far emotional and slight psychical changes, which incapacitate for the continuance of one's ordinary occupation, are due to the accident, and to what extent the damages should he assessed. This is a branch of the question which it is not intended to pursue.

* Ueber die durch Gehirnerschütterung und Kopfverletzung hervorgerufenen psychischen Krankheiten. Dr. R. v. Krafft-Ebing. Erlangen. 1868. P. 20.